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Facsimile No.: 703.746.9195March 30, 2005  
DateKathi Hotchkiss  
Kathi Hotchkiss

Attorney Docket: RO0909US (#90568)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Detlef P. Muller-Schulte

Serial No. 10/509,712

Group No.

Filed: September 30, 2004

Examiner:

For: Luminescent, spherical, non-autofluorescent silica gel particles with changeable emission intensities and emission frequencies

Office of Initial Patent Examination  
Filing Receipt Corrections  
P.O. Box 1450  
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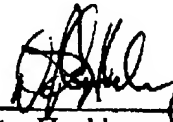
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() Serial No.

1

- ☐ Foreign/PCT Application Reference
- ☐ Other

in that the filing receipt should read as follows: Applicant's Name is Detlef P. Muller-Schulte, please enter a "c" after the S and before the h in Schulte.

In the title: Please see the Preliminary Amendment for the correct title.



\_\_\_\_\_  
D. Peter Hochberg  
Reg. No. 24,603

Att.: Copies of Filing Receipt,  
Preliminary Amendment,  
Transmittal Letter and the  
Published PCT (Total Pages 8)

D. Peter Hochberg Co., L.P.A.  
The Baker Building  
1940 East 6th Street, Sixth Floor  
Cleveland, Ohio 44114  
216.771.3800



## UNITED STATES PATENT AND TRADEMARK OFFICE

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10/509,712	09/30/2004	1645	548	RO0909US(#90568)		25	4

D Peter Hochberg Company  
The Baker Building 6th Floor  
1940 East 6th Street  
Cleveland, OH 44114-2294

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Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Detlef P. Muller-Shulte, Aachen, GERMANY;

Should be Schulte

## Power of Attorney:

D Hochberg--24603

## Domestic Priority data as claimed by applicant

This application is a 371 of PCT/EP03/03163 03/27/2003

## Foreign Applications

GERMANY 102 14 019.7 03/30/2002

Projected Publication Date: 06/23/2005

Non-Publication Request: No

Early Publication Request: No

\*\* SMALL ENTITY \*\*

Title

Luminescent, spherical, non-autofluorescent silica gel particles having variable emission intensities and frequencies

Preliminary Class  
435

↓ Should be: Luminescent, Spherical, Non-Autofluorescent Silica  
Gel Particles With Changeable Emission Intensities  
and Emission Frequencies

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Sean F. Mellino

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Detlef P. Müller-Schulte

Serial No. :

Filing Date : Herewith

Examiner :

Group Art Unit:

Title : Luminescent, Spherical, Non-Autofluorescent Silica Gel  
Particles With Changeable Emission Intensities and  
Emission Frequencies (as amended herein)

Attorney File : RO0909US (#90568)

Mail Stop PCT  
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**PRELIMINARY AMENDMENT**

Dear Sir:

Please amend the above-referenced application as follows:

**In the Title:**



Please amend the title of the application from "Luminescent, Spheroid, Non-Autofluorescent Silica Gel Particles Having Variable Emission Intensities and Frequencies" to "Luminescent, Spherical, Non-Autofluorescent Silica Gel Particles With Changeable Emission Intensities and Emission Frequencies".

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES  
PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG(19) Weltorganisation für geistiges Eigentum  
Internationales Büro(43) Internationales Veröffentlichungsdatum  
9. Oktober 2003 (09.10.2003)

PCT

(10) Internationale Veröffentlichungsnummer  
WO 2003/083481 A3(51) Internationale Patentklassifikation<sup>7</sup>: G01N 33/58, 33/543, C12Q 1/68, C09K 11/02

(21) Internationales Aktenzeichen: PCT/EP2003/003163

(22) Internationales Anmeldedatum:  
27. März 2003 (27.03.2003)

(25) Einreichungssprache: Deutsch

(26) Veröffentlichungssprache: Deutsch

(30) Angaben zur Priorität:  
102 14 019.7 30. März 2002 (30.03.2002) DE

## Erklärungen gemäß Regel 4.17:

— hinsichtlich der Berechtigung des Anmelders, ein Patent zu beantragen und zu erhalten (Regel 4.17 Ziffer ii) für die folgenden Bestimmungsstaaten AU, BR, BY, CA, CN, CO, IL, IN, IS, JP, KP, KR, MX, NO, NZ, PH, PL, RU, SG, TR, ZA, eurasisches Patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), europäisches Patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR)  
— Erfindererklärung (Regel 4.17 Ziffer iv) nur für US(72) Anmelder und  
(72) Erfinder: MÜLLER-SCHULTE, Detlef, P. (DE/DE);  
Martensberger Weg 8, 52066 Aachen (DE). *new Address*

## Veröffentlicht:

— mit internationalem Recherchenbericht

(74) Anwalt: FLACCUS, Rolf-Dieter; Bussardweg 10, 50389 Wesseling (DE).

(88) Veröffentlichungsdatum des internationalen

Recherchenberichts: 25. März 2004

(81) Bestimmungsstaaten (national): AU, BR, BY, CA, CN, CO, IL, IN, IS, JP, KP, KR, MX, NO, NZ, PH, PL, RU, SG, TR, US, ZA.

Zur Erklärung der Zweibuchstaben-Codes und der anderen Abkürzungen wird auf die Erklärungen ("Guidance Notes on Codes and Abbreviations") am Anfang jeder regulären Ausgabe der PCT-Gazette verwiesen.

(54) Title: LUMINESCENT, SPHEROID, NON-AUTOFLUORESCENT SILICA GEL PARTICLES HAVING VARIABLE EMISSION INTENSITIES AND FREQUENCIES

(54) Bezeichnung: LUMINESZIERENDE, SPHÄRISCHE, NICHT AUTOFLUORESZIERENDE SILICAGEL-PARTIKEL MIT VERÄNDERBAREN EMISSIONSINTENSITÄTEN UND -FREQUENZEN

(57) Abstract: The invention relates to spheroid, transparent silica gel particles that have a high luminescence generated by encapsulating one or more different luminescent substances in a silica gel matrix. The variation of the concentration of the luminescent substances and the encapsulation of substances having different emission frequencies permits the use of the inventive particles as multiplex coding or marker systems in bioanalytics and diagnostics.

(57) Zusammenfassung: Die vorliegende Erfindung betrifft sphärische, transparente Silicagel-Partikel mit hoher Lumineszenz, die durch Einkapseln einer oder mehrerer verschiedener lumineszierender Substanzen in eine Silicagel-Matrix erzeugt wird. Durch Variation der Konzentration der lumineszierenden Substanzen sowie durch Einkapseln von Substanzen unterschiedlicher Emissionsfrequenz lassen sich die Partikel als multiplexe Kodierungs- bzw. Markersysteme in der Bioanalytik und der Diagnostik einsetzen.

WO 2003/083481 A3

Practitioner's Docket No. RO0909US (#90568)

## CHAPTER II

## Preliminary Classification:

Proposed Class: G01N

Subclass: 33/58

**TRANSMITTAL LETTER  
TO THE UNITED STATES ELECTED OFFICE (EO/US)  
(ENTRY INTO U.S. NATIONAL PHASE UNDER CHAPTER II)**

PCT/EP03/03163

27 March 2003 (27.03.03)

30 March 2002 (30.03.02)

International Application No.

International Filing Date

Priority Date Claimed

Luminescent, Spheroid, Non-Autofluorescent Silica Gel Particles Having Variable Emission Intensities  
and Frequencies

Title of Invention

★ Müller-Schulte, Detlef P.

Applicant(s)

Mail Stop PCT

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P.O. Box 1450

Alexandria, VA 22313-1450

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Sean F. Mellino

  
Signature of person certifying

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Transmittal Letter to the United States Elected Office (EO/US)—page 1 of 5



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